

# SEQUENCE LISTING

<110> JAPAN SCIENCE AND TECHNOLOGY CORPORATION

<120> Carcinogen-hypersensitive rat

<130> A031-43PCT

<140>

<141>

<150> JP P2001-253241

<151> 2001-08-23

<160> 6

<170> PatentIn Ver. 2.1

<210> 1

<211> 1485

<212> DNA

<213> Rattus norvegicus

<220>

<221> CDS

<222> (32).. (883)

<400> 1

```

cgcagtgcca gggagggtgtg aatgaggcag g atg aac tgg aca ggt cta tac    52
                               Met Asn Trp Thr Gly Leu Tyr
                               1             5

acc ttg ctc agt ggc gtg aat cgg cat tct aca gcc att ggc cga gta    100
Thr Leu Leu Ser Gly Val Asn Arg His Ser Thr Ala Ile Gly Arg Val
      10             15             20

tgg ctg tcc gtc atc ttt atc ttc aga atc atg gtg ctg gtg gtg gct    148

```

Trp	Leu	Ser	Val	Ile	Phe	Ile	Phe	Arg	Ile	Met	Val	Leu	Val	Val	Ala	
25						30					35					
gca gag agc gtg tgg ggt gat gag aag tct tct ttc atc tgt aac acc 196																
Ala	Glu	Ser	Val	Trp	Gly	Asp	Glu	Lys	Ser	Ser	Phe	Ile	Cys	Asn	Thr	
40					45				50				55			
ctc cag ccg ggc tgt aac agc gtc tgc tat gac cat ttt ttc ccc atc 244																
Leu	Gln	Pro	Gly	Cys	Asn	Ser	Val	Cys	Tyr	Asp	His	Phe	Phe	Pro	Ile	
			60					65				70				
tcc cat gtg cgc ctg tgg tcc ctg caa ctc atc ttg gtt tcc acc cca 292																
Ser	His	Val	Arg	Leu	Trp	Ser	Leu	Gln	Leu	Ile	Leu	Val	Ser	Thr	Pro	
			75					80				85				
gct ctc ctc gtg gca atg cac gtg gct cac caa caa cac ata gaa aag 340																
Ala	Leu	Leu	Val	Ala	Met	His	Val	Ala	His	Gln	Gln	His	Ile	Glu	Lys	
			90					95				100				
aaa atg cta cgg ctt gag ggg cac ggg gac ccc ctt cac ctg gaa gag 388																
Lys	Met	Leu	Arg	Leu	Glu	Gly	His	Gly	Asp	Pro	Leu	His	Leu	Glu	Glu	
			105					110				115				
gta aag agg cac aag gtg cac atc tca ggg aca ctg tgg tgg acc tat 436																
Val	Lys	Arg	His	Lys	Val	His	Ile	Ser	Gly	Thr	Leu	Trp	Trp	Thr	Tyr	
120					125					130				135		
gtc atc agt gtg gtg ttc cgg ctg ctg ttt gag gct gtc ttc atg tat 484																
Val	Ile	Ser	Val	Val	Phe	Arg	Leu	Leu	Phe	Glu	Ala	Val	Phe	Met	Tyr	
					140				145				150			
gtc ttc tat ctg ctc tac ccg ggc tat gcc atg gtg cgg ctg gtc aag 532																
Val	Phe	Tyr	Leu	Leu	Tyr	Pro	Gly	Tyr	Ala	Met	Val	Arg	Leu	Val	Lys	
			155					160				165				
tgt gag gcc ttc ccc tgc ccc aac acg gtg gac tgc ttc gtg tcc cgc 580																
Cys	Glu	Ala	Phe	Pro	Cys	Pro	Asn	Thr	Val	Asp	Cys	Phe	Val	Ser	Arg	

170	175	180	
ccc act gag aaa acc gtc ttc act gtc ttt atg ctc gcc gcc tcc ggc			628
Pro Thr Glu Lys Thr Val Phe Thr Val Phe Met Leu Ala Ala Ser Gly			
185	190	195	
atc tgc att atc ctc aac gtg gcg gag gtg gtg tac ctc atc atc cgg			676
Ile Cys Ile Ile Leu Asn Val Ala Glu Val Val Tyr Leu Ile Ile Arg			
200	205	210	215
gcc tgt gcc cgc cgt gct cag cgc cgc tcc aat ccg ccc tcc cgc aag			724
Ala Cys Ala Arg Arg Ala Gln Arg Arg Ser Asn Pro Pro Ser Arg Lys			
	220	225	230
ggc tcg ggc ttc ggc cac cgc ctc tca cct gaa tac aag cag aat gag			772
Gly Ser Gly Phe Gly His Arg Leu Ser Pro Glu Tyr Lys Gln Asn Glu			
	235	240	245
atc aac aag ctg ctg agc gag cag gat ggc tct ctg aaa gac ata ctg			820
Ile Asn Lys Leu Leu Ser Glu Gln Asp Gly Ser Leu Lys Asp Ile Leu			
	250	255	260
cgc cgc agt cct ggc act ggg gcc ggg ctg gct gag aag agc gac cga			868
Arg Arg Ser Pro Gly Thr Gly Ala Gly Leu Ala Glu Lys Ser Asp Arg			
	265	270	275
tgc tca gcc tgc tga tgccgagtac caggcaacct cccatccaac cctccctca			923
Cys Ser Ala Cys			
280			
ccccaccag gctgcccct cttctccta tgctgggtgag caggcctctg cctcctaggg			983
attactccat caaaccttcc ctccctccct actccccttc ctcagagagt cttctgtcaa			1043
agacctggcc ggcttgggag tggggagcca cttctgcacc agggctcaag gttattgagg			1103
gtgtgggcaa ttctttctgc ctataccctt tectcttccc tctccctgag atgagggatg			1163

agatgttctg aagtggtttc caattaggaa acgtaatctt aaccccatg ctgtcaggta 1223  
 cccactttg ggagtcattg cagtggggag ggctgtgagc aagcagagtg gaggaggggc 1283  
 tctgcactgt ggatggagaa gggaggggag cttgccttgc tgcctgctac aaggaaaagg 1343  
 aggacacatc tagggtgggg gagttctgga gggagaagca ggcagataaa tcagagtggg 1403  
 ggttggtcag ggctgcccc agtccccagt tccaaggcc tctctctctg aaaatgttac 1463  
 acattaaaca ggattttaca gt 1485

<210> 2

<211> 283

<212> PRT

<213> Rattus norvegicus

<400> 2

Met	Asn	Trp	Thr	Gly	Leu	Tyr	Thr	Leu	Leu	Ser	Gly	Val	Asn	Arg	His
1				5				10					15		
Ser	Thr	Ala	Ile	Gly	Arg	Val	Trp	Leu	Ser	Val	Ile	Phe	Ile	Phe	Arg
			20					25					30		
Ile	Met	Val	Leu	Val	Val	Ala	Ala	Glu	Ser	Val	Trp	Gly	Asp	Glu	Lys
	35						40					45			
Ser	Ser	Phe	Ile	Cys	Asn	Thr	Leu	Gln	Pro	Gly	Cys	Asn	Ser	Val	Cys
	50				55					60					
Tyr	Asp	His	Phe	Phe	Pro	Ile	Ser	His	Val	Arg	Leu	Trp	Ser	Leu	Gln
65					70					75				80	
Leu	Ile	Leu	Val	Ser	Thr	Pro	Ala	Leu	Leu	Val	Ala	Met	His	Val	Ala
			85					90					95		
His	Gln	Gln	His	Ile	Glu	Lys	Lys	Met	Leu	Arg	Leu	Glu	Gly	His	Gly
	100						105					110			
Asp	Pro	Leu	His	Leu	Glu	Glu	Val	Lys	Arg	His	Lys	Val	His	Ile	Ser
	115						120					125			
Gly	Thr	Leu	Trp	Trp	Thr	Tyr	Val	Ile	Ser	Val	Val	Phe	Arg	Leu	Leu

130	135	140
Phe Glu Ala Val Phe Met Tyr Val Phe Tyr Leu Leu Tyr Pro Gly Tyr		
145	150	155
Ala Met Val Arg Leu Val Lys Cys Glu Ala Phe Pro Cys Pro Asn Thr		160
165	170	175
Val Asp Cys Phe Val Ser Arg Pro Thr Glu Lys Thr Val Phe Thr Val		
180	185	190
Phe Met Leu Ala Ala Ser Gly Ile Cys Ile Ile Leu Asn Val Ala Glu		
195	200	205
Val Val Tyr Leu Ile Ile Arg Ala Cys Ala Arg Arg Ala Gln Arg Arg		
210	215	220
Ser Asn Pro Pro Ser Arg Lys Gly Ser Gly Phe Gly His Arg Leu Ser		
225	230	235
Pro Glu Tyr Lys Gln Asn Glu Ile Asn Lys Leu Leu Ser Glu Gln Asp		
245	250	255
Gly Ser Leu Lys Asp Ile Leu Arg Arg Ser Pro Gly Thr Gly Ala Gly		
260	265	270
Leu Ala Glu Lys Ser Asp Arg Cys Ser Ala Cys		
275	280	

<210> 3

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Insertion  
Sequence

<400> 3

catcatcacc atcaccattg a

21

<210> 4

<211> 20

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:P1

<400> 4  
aacgtggcgc aggtggtgta 20

<210> 5  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:P2

<400> 5  
atggtgatgg tgatgatggc 20

<210> 6  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:P3

<400> 6  
gggaaggttt gatggagtaa t 21